



**DESCRIPTION**

The **SD019-141-411** is a silicon PIN 0.18mm<sup>2</sup> active area photodiode assembled in a 0805 package with an integrated bandpass filter. Three standard wavelength ranges are available

**RELIABILITY**

This API high-reliability detector is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test. Contact API for recommendations on specific test conditions and procedures.

**FEATURES**

- Small Footprint
- Low Capacitance
- High Speed

**APPLICATIONS**

- Industrial Sensors
- Light Management
- Handheld Devices

**ABSOLUTE MAXIMUM RATINGS**

T<sub>a</sub> = 25°C UNLESS OTHERWISE NOTED

PARAMETER	MIN	MAX	UNITS
Reverse Voltage	-	50	V
Operating Temperature	-40	+105	°C
Storage Temperature	-50	+125	°C
Soldering Temperature*	-	+260	°C

PART NUMBER	BAND PASS	RANGE [nm]
SD019-141-411 - R	Red	625 – 655
SD019-141-411 - G	Green	510 – 540
SD019-141-411 - B	Blue	435 – 465

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

**OPTO-ELECTRICAL PARAMETERS**

$T_a = 23^\circ\text{C}$  unless noted otherwise

CHARACTERISTIC	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Forward Voltage	$I_f = 10\text{ mA}$	0.5	0.8	1.3	V
Responsivity (-R)	$V_R = 0\text{V}; \lambda = 450\text{ nm}$	-	0.06	-	A/W
Responsivity (-G)	$V_R = 0\text{V}; \lambda = 550\text{ nm}$	-	0.12	-	A/W
Responsivity (-B)	$V_R = 0\text{V}; \lambda = 625\text{ nm}$	-	0.05	-	A/W
Breakdown Voltage	$I_R = 100\ \mu\text{A}$	50.0	-	-	V
Shunt Resistance	$V_{\text{bias}} = 10\text{ mV}$	-	2.0	-	$\text{G}\Omega$
Dark Current	$V_R = 10\text{ V}$	-	-	0.5	nA
Junction Capacitance	$V_R = 5\text{V}; f = 1000\text{ kHz}$	-	6.0	-	pF
Rise Time	$V_R = 3\text{V}; R_i = 1000\Omega$	-	10.0	-	nS

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**

